Complete Summary

TITLE

Ischemic heart disease: percent of patients with first troponin result returned within 60 minutes of order time (inpatient AMI JCAHO, inpatient AMI all, and inpatient NST-ACS/UA cohorts).

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Brief Abstract

DESCRIPTION

This measure assesses the percent of patients with first troponin result returned within 60 minutes of order time.

RATIONALE

Effective risk stratification is integral to proper management of acute coronary syndrome (ACS). At acute presentation, this stratification guides triage and directs initial therapeutic options. The American College of Cardiology (ACC) and American Heart Association (AHA) recently published revised guidelines for the management of patients with non-ST elevation ACS that include early clinical assessment and risk stratification for all patients with suspected ACS. The ACC/AHA guidelines recommend an aggressive approach to initial risk stratification and medical therapy selection for all high-risk patients with non-ST-segment elevation (NSTE) ACS who are usually identified by elevated cardiac markers or ischemic ST-segment electrocardiogram (ECG) changes. Despite these recommendations, studies have shown that adherence to the ACC/AHA guidelines is suboptimal. It is critical to perform early testing or assessment that allows for the timely risk stratification of ACS patient into appropriate treatment groups. According to the ACC/AHA Guidelines (Class I conditions),

- Patients who present with chest discomfort should undergo early risk stratification that focuses on anginal symptoms, physical findings, ECG findings, and biomarkers of cardiac injury (Level of Evidence B) and this

information should be used to determine the high, intermediate, or low likelihood of acute ischemia.
- A 12 lead ECG should be obtained immediately (within 10 minutes) in patients with ongoing chest discomfort and as rapidly as possible in patients who have a history of chest discomfort consistent with ACS but whose discomfort has resolved by the time of evaluation (Level of Evidence C).
- Biomarkers of cardiac injury should be measured in all patients who present with chest discomfort consistent with ACS. A cardiac troponin is the preferred marker. In patients with negative cardiac marker within 6 hours of onset of pain, another sample should be obtained in the 6- to 12-hour time frame (at 9 hours of onset of symptoms) (Level of Evidence C).

Additional studies support these guidelines aimed at guiding clinicians in risk stratifying patients acutely presenting with symptoms of ACS. Other studies confirm that the complementary use of ECG quantitative data and serial troponin measurements constitute the two most useful non-invasive tests in patients with non-ST segment elevation ACS in determining ischemic burden on admission, categorizing patients into treatment groups, and supplying prognostic information. In the progressive evolution of cardiac marker testing, the clear superiority of the highly sensitive and cardiac specific troponin as the new gold standard assay has been demonstrated.

The goal of risk stratification is to identify patients whose outcomes can be improved through specific clinical interventions at different points of care, thus affecting both relative and absolute risk reduction in clinically significant endpoints. Baseline clinical and demographic risk factors are combined with ECG and laboratory findings to develop a risk profile that can direct the appropriate level of care, and predict the expected outcomes in response to these therapies. Because the ECG and troponin data are crucial to the risk early stratification model, it is vital that these be obtained rapidly. Subsequently, cardiology resources can be allocated based on the risk profile, with high-risk patients receiving the benefit of cardiology involvement in the first 24 hours after arrival or ECG if acute myocardial infarction (AMI) experienced as an inpatient to direct and manage appropriate and timely acute intervention especially related to reperfusion.

PRIMARY CLINICAL COMPONENT

Ischemic heart disease; acute coronary syndrome (ACS); acute myocardial infarction (AMI); troponin

DENOMINATOR DESCRIPTION

Patients from the Inpatient AMI JCAHO, Inpatient AMI All, and Inpatient NST-ACS/UA cohorts admitted with acute coronary syndrome (ACS) (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

The number of patients from the denominator with first troponin result returned within 60 minutes of order time (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- ACC/AHA 2002 guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on the Management of Patients With Unstable Angina).
- VA/DoD clinical practice guideline for management of ischemic heart disease.

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

External oversight/Veterans Health Administration
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Acute coronary syndrome (ACS) is the leading cause of morbidity and mortality among both men and women in the United States, affecting more than 13.9 million people. The acute presentation of ACS is varied, with acute myocardial infarction (AMI) being the most dramatic of presentations. Annually, AMI affects approximately 1.1 million people in the United States. The mortality rate with AMI is approximately 30%. About once every 29 seconds, an American suffers a coronary event, and about every minute, someone dies from one.

EVIDENCE FOR INCIDENCE/PREVALENCE

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

See "Incidence/Prevalence" field.

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Timeliness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Patients from the Inpatient Acute Myocardial Infarction (AMI) JCAHO, Inpatient AMI All, and Inpatient Non-Segment Elevation-Acute Coronary Syndrome/Unstable Angina (NST-ACS/UA) cohorts*

*Refer to the original measure documentation for patient cohort descriptions.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Patients from the Inpatient AMI JCAHO, Inpatient AMI All, and Inpatient NST-ACS/UA cohorts admitted with acute coronary syndrome (ACS)*

*Refer to the original measure documentation for patient cohort descriptions.

Exclusions

- Patients transferred in from a community hospital
- Documented decision not to treat within 24 hours. The record clearly documents that the patient, patient's family, or legal representative wishes comfort measures only, and/or there is agreement that the patient's cardiac condition and co-morbid conditions preclude aggressive treatment. Documentation such as comfort measures only, hospice care, maintain treatment for comfort, terminal care, physician documentation that care is limited at family's request or due to patient's age or chronic illness, palliative care, supportive care only, will cause the patient to be excluded from the measure.

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator with first troponin result returned within 60 minutes of order time*

*Note:

Troponin Order Date and Time: Date and time of the first troponin ordered after acute arrival as found in Computerized Patient Record System (CPRS).

Troponin Report Date and Time: Report date and time the troponin results were available and known to the clinician. Point-of-Care testing result may be located in the progress notes or lab package. Central laboratory assay results will use the lab report date and time. If results are recorded in the progress notes, the note must be timed. If it is reported in both a progress note and the lab package, the earlier time will be used.

Exclusions

Unspecified

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative and medical records data
Laboratory data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison
Prescriptive standard

PRESCRIPTIVE STANDARD

Fiscal year (FY) 2005 targets for first troponin result returned within 60 minutes of order time (Inpatient AMI JCAHO, Inpatient AMI All, and Inpatient NST-ACS/UA cohorts):

- Meets Target: 75%
- Exceeds Target: 80%

EVIDENCE FOR PRESCRIPTIVE STANDARD

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Ischemic heart disease (IHD): troponin returned in 60 minutes of order.

MEASURE COLLECTION

Fiscal Year (FY) 2005: Veterans Health Administration (VHA) Performance Measurement System

MEASURE SET NAME

Cardiovascular

MEASURE SUBSET NAME

Ischemic Heart Disease

DEVELOPER

Veterans Health Administration

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 Nov

REVISION DATE

2005 Mar

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

MEASURE AVAILABILITY

The individual measure, "Ischemic Heart Disease (IHD): Troponin Returned in 60 Minutes of Order," is published in "FY 2005 VHA Performance Measurement System: Technical Manual."

For more information contact:

Department of Veterans Affairs
Office of Quality and Performance (10Q)
ATTN: Roxane Rusch, E-mail: roxane.rusch@va.gov or

Bonny Collins, E-mail: bonny.collins@va.gov or
Lynnette Nilan, E-mail: lynnette.nilan@va.gov

NQMC STATUS

This NQMC summary was completed by ECRI on November 29, 2004. The information was verified by the measure developer on December 10, 2004.

COPYRIGHT STATEMENT

Date Modified: 5/23/2005